Alaska's Allied Health Workforce: A Statewide Assessment

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EXECUTIVE SUMMARY

The health care industry is one of the largest employers in Alaska. Health care workers, ranging from physicians and administrators to public health workers and allied health professionals, are distributed across the state. For this project, allied health workers are defined as those professions and occupations that provide physical and behavioral health support in the health care field.

The purpose of the Allied Health Workforce Assessment is to determine the current and projected training needs of the Alaskan allied health workforce. This information will enable the University of Alaska to plan future training programs in the health care field. This assessment took a "snapshot view" of the Alaskan allied health workforce in terms of number of employees, vacancies, annual turnover, projected future needs and recruitment difficulties – to determine the areas of greatest need. It also collected qualitative information regarding training needs, cross training, general trends and suggestions to the University of Alaska for planning health related coursework and programs.

Working in collaboration with staff and representatives of health care industry organizations, Project Team members developed a data collection instrument and generated a list of 74 occupations in October 2000. Pilot surveys were conducted in four sites across the state during November 2000. Based on feedback from these pilots, the survey instrument was revised and finalized.

Survey participants were identified using membership lists from:

1. Alaska State Hospital and Nursing Home Association (ASHNHA)
2. Alaska Primary Care Association (APCA)
3. Alaska Native Health Board (ANHB)
4. Alaska Mental Health Trust Authority (AMHTA)
5. Substance Abuse and Directors Association (SADA)
6. Alaska Community Mental Health Services Association (ACMHSA)
7. Infant Learning programs
8. Long-term care and assisted living facilities
9. Developmental disability providers

Surveys were mailed in November 2000 along with a survey tip sheet and appropriate cover letters from these organizations. Staff members of ASHNHA, APCA, ANHB, ICHS and ACRH telephoned respondents to discuss the survey and collect data. ACRH staff conducted surveys with school districts, a sampling of EMS organizations, and the Alaska Department of Corrections.

In addition to the above mentioned organizations, other health care providers were identified using the "yellow pages" of Anchorage, Fairbanks, Juneau, and Kenai Peninsula phone books. ACRH staff contacted pharmacies, vision clinics, rehabilitation offices (including physical therapy, occupational therapy, speech pathology, audiology, and orthopedics), and imaging clinics. They also sampled medical clinics, dental clinics, and behavioral health organizations. No surveys were mailed to these organizations, but the same survey instrument was used to record information.

369 organizations out of 384 responded for an overall response rate of 96%. The project team reconvened in early February 2000 to review data and draft recommendations for the University of Alaska's Planning & Budgeting Advisory Committee (PBAC) on Health.

RECOMMENDATIONS

ACRH staff presented the Project Team's findings and recommendations to the Planning & Budgeting Advisory Committee (PBAC) on Health on February 22nd, 2001. The PBAC, with representation from each of the University of Alaska's three major academic units (Fairbanks, Anchorage, and Southeast), transformed the findings into a proposed implementation strategy for Fiscal Year 2002 funding. If these recommendations are included in the FY02 University budget and funded by the Alaska State Legislature, the following will occur:

Pharmacy Technician

Expansion of pharmacy technician training at UAF using instructional models developed at UAA. Sixty thousand dollars in FY02 general fund, coupled with $20,000 in tuition, would cover the estimated $80,000 in program expenses.

Radiologic Technicians

Continuation of current efforts to develop radiological health training including the FY03 proposal to increase faculty appointments from 9 to 12 months. Additional assessments of the program should be conducted for possible inclusion in FY04 initiatives.

Behavioral Health

The recommendations in the Allied Health Workforce Assessment emphasized the need for an additional review of behavioral health professions. The PBAC recommends an extension of the existing Allied Health Services contract with the Alaska Center for Rural Health to provide an initial $10,000 for the study of behavioral health efforts. This money has been taken from the FY01 pool and therefore will not affect the FY02 Allied Health set-aside.

Additional activities to be included are as follows:

- Behavioral Health Personnel Analysis - $50,000
- Associated Travel - $10,000
- Curriculum Development in Cross-Cultural and Intergenerational Mental Health Issues - $5,000
- Curriculum Development in Substance Abuse - $5,000

Rehabilitation Services

The Allied Health Workforce Assessment found a strong need for more rehabilitation staff in Alaska, but the Project Team recognized that starting new programs in Alaska may be unrealistic at this time. The Project Team recommended dedicating staff to advise students on options for completing rehabilitation degrees in programs outside Alaska in the areas of occupational, physical, recreational, and speech therapy, and to endorse current affiliations with WICHE programs. They also urged the development of aggressive advising services, including 800 numbers, and support for professional student exchange programs.

The PBAC recommends that a full-time equivalent faculty member be hired with related travel and incidental costs not to exceed $120,000.

Other Allied Health Professions

The PBAC found common themes in the study's discussion of the need for coordination of other Allied Health professions, including coding and billing specialists, dental assisting, entry level health occupations, and some emergency medical services training. The committee discussed the need for distance delivery of many of these programs and the need for qualified personnel at each Major Academic Unit (MAU) to assist students in:

- Service coordination
- Instruction
- Distance education
- Preceptorship site development and management
- Student placement

The PBAC recommends hiring an Allied Health Coordinator for each MAU. These coordinators would assure that students enrolled in various Allied Health Distance Education courses of study would receive the support required for successful completion. High school student recruitment into health careers (especially of minority students) would be another critical element in this initiative. It was estimated that the cost would not exceed $200,000.

The PBAC recommends that the chair contact individuals who could put together a more detailed proposal for the expenditure of the FY02 Allied Health resources in line with these recommendations.

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Appendices

I. PROJECT RATIONALE

Health care is a major employer. Nationally, the health workforce represents 10.5% of all American workers (*State Health Workforce Profile 2001,* Health Resources and Services Administration). In Alaska, Providence Alaska Medical Center is the second largest private employer, behind Safeway/Carrs. Many health care providers, such as the Norton Sound Health Corporation in Nome and the Yukon-Kuskokwim Health Corporation in Bethel, are the largest employers in their regional areas. The Department of Labor states in the August 2000 issue of Alaska Economic Trends, "Health care is a labor-intensive industry that provides around-the-clock and year-round services."

To keep the health care delivery system functioning efficiently within Alaska, it is important to have an adequate supply of allied health workers. According to the statewide industry employment estimates from 1995 to year 2000 (http://www.labor.state.ak.us/research/emp_ue/ak95prs.htm), health care services are on the rise. During 1995, an estimated monthly average of 13,200 people were employed in health services. 1999 shows an estimated average of 15,600, and the 2000 figures report an estimated average of 16,650 health service workers employed each month. These numbers do not include additional behavioral health occupations that might be listed under "social services." This sector also shows a steady increase from an estimated 6,300 people employed in 1995 to over 8,000 employed in 2000.

Alaska must "grow its own." The September 2000 Alaska Economic Trends notes that, "Alaska's per capita personal income and average earnings are currently hovering at the national average, providing little economic incentive for workers from high wage areas in western states to choose Alaska. Training Alaska workers may be the best and least expensive solution for many employers."

The University of Alaska seeks to expand and maintain training programs for allied health workers. This could include planning new courses and programs, or potentially re-engineering existing curricula. To facilitate this process, the University of Alaska invited the Alaska Center for Rural Health (ACRH) to conduct an assessment of the current and projected needs of the allied health workforce. ACRH designed the project as a collaboration with health care industry organizations. The purpose of the survey was to take a "snapshot view" of the Alaskan allied health workforce in terms of number of employees, vacancies, turnover rates, projected future needs, and recruitment difficulties – and to determine the areas of greatest need. For this project, allied health workers are defined as **those professions and occupations that provide physical and behavioral health support in the health care field**. They are an essential part of Alaska's growing health care workforce.

The format of this report reflects its customer, the University of Alaska's Planning & Budget Advising Committee (PBAC) on Health. The PBAC sought information on allied health occupations on the statewide level. In addition, the data were also sorted by geographic correspondence to major academic units (UAF, UAA, UAS) and by correspondence to main versus branch University of Alaska campuses. Thus, Section III "Results" has three components. First is "Overview of Quantitative Findings"– providing an overview of respondents, comparing occupations, and selected data organized by major academic unit. Second is "Results Organized by Occupation." Each occupation under study has its own page that includes a summary of findings, survey responses, comparisons by location, and an abbreviated occupation description. Where possible, the occupations are also clumped and have category overviews (behavioral health, rehabilitation, etc.). This format enables faculty for these occupations, and employees in these occupations, to read the pages of interest to them rather

than gleaning occupation-specific information from other sections. Finally, part three of the Results section is a "Summary of Qualitative Comments." Due to the range of organizations that participated in the survey, the analysis is separated into categories that are often difficult to compare within the Occupation results. The quantitative and qualitative findings converge later, to form Section IV "Discussion and Recommendations."

II. METHODOLOGY

A. Project Collaborators

The Alaska Center for Rural Health (ACRH) sought active partners on this project for three key reasons. First, the assessment's timeline of 4.5 months made it nearly impossible for a single organization to effectively implement the project. Second, ACRH wanted the depth and breadth of experienced health leaders – organizations that understood the allied health workforce and how health employers organize their staff. Finally, ACRH recognized the need for a high response rate, and knew allied health employers would respond to letters and phone calls from these visible and respected health organizations.

To this end, the ACRH worked in collaboration with the Alaska State Hospital and Nursing Home Association (ASHNHA), the Alaska Primary Care Association (APCA), the Alaska Native Health Board (ANHB), the Alaska Native Tribal Health Consortium (ANTHC), the Medical Assisting Department of UAA, the Institute for Circumpolar Health Studies of UAA, the Alaska Mental Health Trust Authority (AMHTA), the Alaska Mental Health Board, the Department of Health and Social Services (including the Advisory Board on Alcoholism and Drug Abuse and the Governor's Council on Disabilities and Special Education), the Substance Abuse and Directors Association (SADA), the Division of Senior Services, and the Department of Labor. Representatives from each organization were invited to participate in developing the survey instrument, review preliminary data, and make recommendations to the University of Alaska for training programs. In practice, they all participated in instrument development. Staff from ASHNHA, APCA, ANHB, and ICHS assisted in the implementation phase – conducting phone interviews with member organizations. Final recommendations were developed in collaboration with the staff and representatives of ASHNHA, APCA, ANTHC, AMHTA, the Medical Assisting Department of UAA, ICHS, the Alaska Mental Health Board, the Substance Abuse and Directors Association, the Governor's Council on Disabilities and Special Education, and the Advisory Board on Alcoholism and Drug Abuse.

B. Instrument Development

Members of the collaboration team met in a series of meetings in October and November 2000. During this time, they discussed common goals and outcomes of the project, developed a list of allied health occupations to be assessed, and assisted in the development of the survey instrument. Initially, ACRH had planned to assess only those occupations for which the Department of Labor (DOL) had no data. However, because DOL did not have the level of detail the University needed for planning curricula,[1] the entire spectrum of allied health workers was examined. To better determine the need for particular education programs, the allied health team decided to identify occupations in terms of educational backgrounds. In addition, the team

[1] In some cases, occupations were lumped into larger categories. For example, *social worker* is considered one category in the DOL data. A social worker, however, can be someone with a bachelor's degree, a master's degree, or a master's degree and a state license.

felt identifying turnover rates and recruitment difficulties within occupations were important components when planning for Alaska's needs – information not included in the DOL data.

Physicians and dentists were not included in the survey since they are not considered allied health workers. Nurses, above the certified nursing assistant level, were also excluded due to previous assessments that have been recently completed (Alaska Colleagues in Caring RN and LPN relicensure survey partially funded by Robert Wood Johnson Foundation). It was felt that their inclusion would have been redundant at best. Physician assistants were not in the original instrument. After survey printing, however, ACRH was reminded of the need for collecting hard data on physician assistants in Alaska. Phone interviewers manually added physician assistants to their surveys during implementation.

While drafting the list of allied health occupations, members of the collaboration team made a decision to exclude alternative health occupations including massage therapists, chiropractors, and acupuncturists; some highly specialized occupations such as radiation therapy; and occupations within public health management. In addition, because of the ambiguous nature of some behavioral health occupational titles, specific educational degrees were identified for many occupations, especially in the behavioral health section. A total of 74 occupations[2] were identified on the survey (see Appendix A). Occupations were grouped into general categories on the survey instrument to make it more user-friendly. Categories included health information management, behavioral health, hospital ancillary services, long-term care, and rehabilitation.

In order to maintain consistency in the identification of employees within occupations, descriptions for each occupation were compiled and made available on the ACRH web site (http://www.uaa.alaska.edu/ichs/acrh/). Several sources were used to compile the list of occupation descriptions. These include the ACRH web site, the Montana AHEC Resource Center's web site (http://healthinfo.montana.edu/natahec/Ahecedu.htm), the North Carolina Health Careers on-line manual (http://www.med.unc.edu/ahec/hcm2000/frame.html), the American Medical Association's Health Professions Career and Education Directory 2000-2001 (28th Edition), and, in some cases, job descriptions and professionals in the field.

C. Pilot Survey

The Allied Health Workforce Assessment was piloted in four sites: the Yukon-Kuskokwim Health Corporation (YKHC), Bartlett Regional Hospital in Juneau, the Anchorage Neighborhood Health Center, and the City of Ketchikan Gateway Center for Human Services. Representatives of ASHNHA, APCA, and the Alaska Community Mental Health Services Association each implemented a pilot survey, with MaryAnn Schaffer running one at YKHC. Upon completion of the field test, the collaboration team reconvened to discuss the survey instrument and issues revolving around its implementation. Two major changes to the survey resulted from this meeting: 1) rather than using the more traditional method of counting full-time equivalents, units are represented by the number of people who must be trained to do the work and 2) turnover rates are identified. The rationale for counting bodies rather than full-time equivalents is that the University is interested in **the number of individuals who need to be trained to get the work done**, independent of a worker's status as part-time, full-time, or contractor. Turnover is defined as **the number of people that need to be "turned over" or hired each year**. Adding this information to our assessment provides a clearer picture of how many people need to be hired each year within a particular occupation.

[2] *In addition, information was collected on the following occupations that were not listed on the final survey instrument:* physician assistants, school counselors, school psychologists, and apprentice opticians.

D. Identification of Survey Participants

A list of survey participants was compiled using membership lists from ASHNHA, APCA, ANHB, and the Alaska Mental Health Trust Authority. In addition, membership lists were obtained from the Substance Abuse and Directors Association (SADA); the Alaska Community Mental Health Services Association (ACMHSA); Infant Learning Programs; long-term care and assisted living facilities; and developmental disabilities providers. Once the major list was sorted and compiled, duplicate programs were identified and deleted. In many cases, larger organizations may have satellite programs. For example, Providence Hospital has facilities in Anchorage, Kodiak, and Seward. When appropriate, information for satellite programs within an organization was compiled and counted within one survey. Surveys were also sent to 38 school districts that employ allied health workers, and one survey was given to the Department of Corrections that includes all allied health employees for its facilities statewide.

In addition to Native health corporations and federal, state, and municipal funded health facilities/organizations, private practices also employ a large sector of the allied health workforce. Due to the short timeframe for this project, ACRH selected a sample of private practices in three regions of the state: Interior, Southcentral, and Southeast. The regions loosely correspond to the University of Alaska Fairbanks, Anchorage, and Southeast campuses. Yellow pages from the current Fairbanks, Anchorage, Kenai Peninsula, and Juneau phonebooks were used as a sampling frame, since the Division of Occupational Licensing did not organize their data by employer (i.e. hospital, native health corporation, private practice), nor did the medical, dental, or other professional associations. All businesses listed under the following headings in the "yellow pages" were contacted: *pharmacies, audiologists, speech pathologists, occupational therapists, physical therapists, orthopedics, ultrasound, mammography, opticians, and optometric technicians*. Businesses that were composed of only one employee (i.e. an optician or a physical therapist) were excluded. The rationale behind this decision was that our survey instrument is composed of questions for *employers* of allied health workers and not employees themselves. It would be impossible to ask a sole proprietor what their personal turnover was; it was necessary to ask an office manager about turnover for employees of the organization.

A sample of dental clinics, medical clinics, and behavioral health practices across the state were also surveyed. Once again the yellow pages from the Anchorage, Kenai Peninsula, Fairbanks, and Juneau phonebooks were used as a sampling frame. Identifying unique organizations within these phonebooks proved to be a time consuming and sometimes difficult task due to the tremendous number of entries (over 1000) and the nature of phonebook listings. Many practices have duplicate or multiple listings, often under different names. In order to narrow the list of potential survey contacts to a more manageable sample that could be done in the timeframe allowed for this project, a decision was made to sample only practices with **more than one** physician, dentist, or behavioral health worker.

Medical clinics were identified under the phonebook headings of *physicians* and *medical clinics* and dental clinics were identified under the listings of *dentists*. The following headings were used to identify behavioral health practices: *mental health services, mental health agencies, counselors-human relations, mental health clinics, home health service, marriage and family counselors, and psychologists*. Alphabetical lists were created for each of the four phonebooks and a systematic sampling of 50% was taken from each list.

Limiting the sample to offices that contained more than one dentist excluded the Southeast region, since no group clinics are found in the Juneau phonebook. As a result, an additional sample of 30 single dentist practices was surveyed. To get a representative sample across the

three regions of the state, we contacted the Alaska Dental Society. They currently have 325 members that represent approximately 76% of the practicing dentists in the state. Of these 325 members, percentages were calculated of those that reside in the Southeast, Southcentral, and Interior regions of the state. These percentages were then used to decide how many offices to sample in each region for a total of 30 surveys. Systematic samples were taken from each phonebook. (Note: to get a more representative sample of Southeast, besides the Juneau phonebook, one office in Sitka was selected and one office in Ketchikan.)

E. Implementation of the Survey

Once the initial list of 136 organizations was identified, collaborating organizations provided cover letters for their member organizations. For example, ASHNHA wrote letters to all non-Native hospitals and nursing homes, ANHB wrote letters for all Native health corporations, etc. These letters encouraged survey completion by outlining benefits of the project to the allied health workforce in their own terms. Surveys were mailed November of 2000. Included in the survey packet was an Allied Health Survey Tips sheet (see Appendix B), the aforementioned cover letter from the participating organization, and a cover letter from the University of Alaska (see Appendix C). The enclosed Tips Sheet included a pointer to the ACRH web site where both the survey and occupation descriptions were posted. Cover letters instructed participants they would be contacted by phone from a representative of the appropriate organization – and the name and contact information for that person was provided. In general, survey packets were sent to executive and program directors with a request to pass the survey on to an appropriate person within their organization who would best be able to compile the information.

Information was collected over the phone by staff members of ASHNHA, ANHB, APCA, ICHS, and ACRH. Initial contact was made to all survey participants shortly after surveys were mailed, to provide an introduction of the interviewer and identify the appropriate contact person. In addition, questions were answered about interpretation of the survey components and, if possible, times were scheduled for actual collection of data over the phone. Occasionally, surveys were mailed or faxed to ACRH. In these instances, the surveys were reviewed and follow-up calls made if any numbers or comments needed clarification.

Additional surveys were conducted with school districts, EMS organizations, and the Alaska State Department of Corrections. Eleven EMS organizations were identified through the EMS web site (http://chems.alaska.gov/ems_contacts.htm). All school districts were contacted, 38 of which were found to employ allied health workers. One survey was used to cover all allied health employees working in correction facilities across Alaska.

For those participants selected from the yellow pages, phone surveys were conducted by ICHS and ACRH staff. Though surveys were not mailed to these businesses, information was recorded on the same survey instrument as those mailed. When possible, contact was made with the individual who was in charge of recruiting and hiring within the organization.

A total of 198 phone surveys were attempted from businesses identified within the yellow pages. 190 surveys were completed, while 8 businesses refused to participate. In some cases, businesses listed in the yellow pages were no longer in operation or were connected to a larger organization that had already participated in the survey process. No tally was kept of these businesses and they are not included in the total number of surveys attempted.

III. RESULTS

A. Overview of Quantitative Findings

369 surveys were completed out of 384 surveys attempted, for an overall response rate of 96%. Response rate can be further organized by type of employer. Specific response rates are shown in Table 1.

Table 1. Response Rate by Employer

Member Organizations	Attempted/ Completed	Response Rate
Hospitals/Health Clinics/Native Health Corporations	58/61	95%
Behavioral Health (mental health, substance abuse, developmental disabilities, long-term care, infant learning)	71/75	95%
School Districts	38/38	100%
Corrections (statewide)	1/1	100%
EMS (sampled)	11/11	100%
Yellow Pages (Anchorage, Fairbanks, Juneau, Kenai Peninsula)		
Pharmacies (all)	27/28	96%
Eye Clinics (all)	29/29	100%
Rehabilitation (physical therapists, occupational therapists, audiologists, speech pathologists, orthotists, prosthetists) (all)	27/27	100%
Imaging (all)	2/2	100%
Medical Clinics (sampled)	30/32	94%
Dental Clinics (sampled)	41/43	95%
Behavioral Health Organizations (sampled)	34/37	92%

Organizations varied tremendously in size, with over half of the respondents employing 15 or fewer staff.

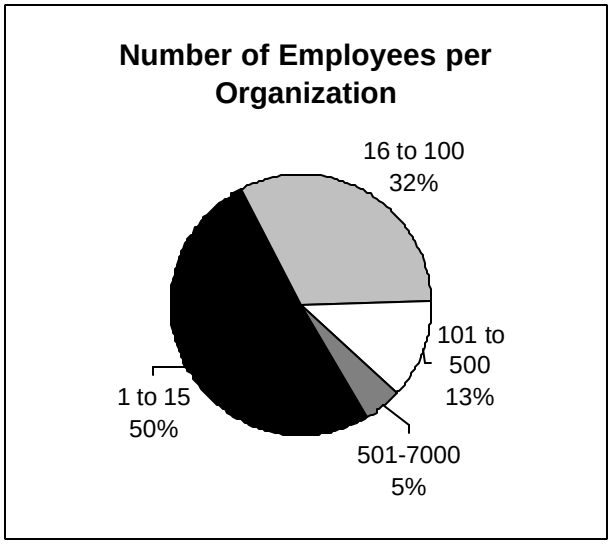
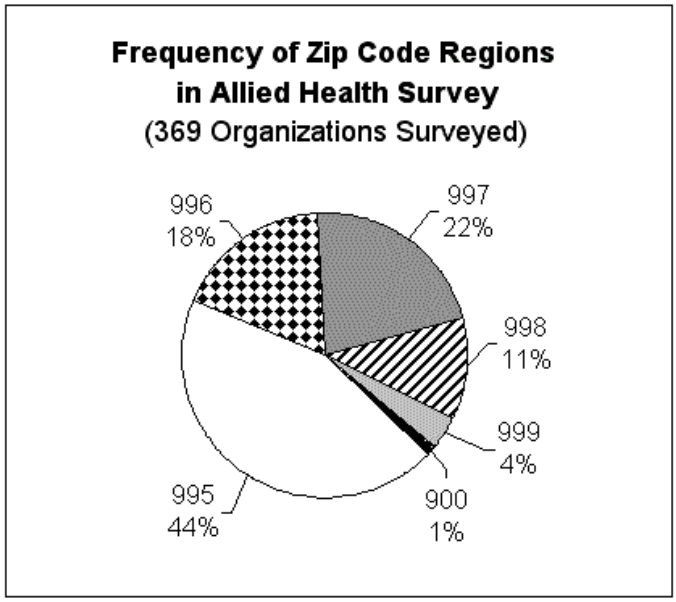


Figure 1

As Figure 2 demonstrates, respondents are fairly proportional to the population statewide (Alaska Population Overview: 1999 Estimates). This suggests data collection is geographically representative of the population, and allied health employers are as well. Sixty-two percent (62%) of the surveys came from the southcentral and southwest regions, where approximately 68% of the population resides. Fifteen percent (15%) of the surveys came from southeast Alaska, where approximately 12% of the population resides. Twenty-two percent (22%) of the surveys came from the interior and northern regions, where approximately 20% of the population resides.



KEY

900
Statewide (facilities which reported results statewide)

995 and 996
Southcentral/Southwest regions (includes Anchorage)

997
Interior & Northern regions (includes Fairbanks)

998 and 999
Southeast region

Figure 2

The following table is a compiled summary of the results for annual turnover, 3-5 year hiring projections, recruitment difficulty and recruitment difficulty, because of training. Each arrow indicates that the number in the column to its left is from a sample and is conservative. That is to say, if it were possible to get 100% of the population, the number would be higher. Two arrows reflect the number is underrepresented in two samples.

Table 2. Compiled Occupational Results

	Annual turnover per year (positions)		3-5 yr hiring projection: number of organizations expecting an INCREASE in staff		Recruitment difficult: number of organizations reporting VERY DIFFICULT		Reason for recruit difficult: number of orgs reporting because of TRAINING	Total number of orgs employing occupation
Analyst	1.00		4		2		4	13
Audiologist	3.00		1		2		1	13
Biller	39.25	⇧ ⇧	24	⇧ ⇧	9	⇧	18	75
Biomedical Equipment Technician	4.00		6		2		2	14
Cardiac Sonographer	2.00		3		4		2	5
Cardiovascular Technician	0.00		1		3		1	3
CAT	0.50		4		4		7	11
Certified Nursing Assistant	299.00	⇧	18	⇧	13		19	37
Clinical Lab Assistant	12.00		5	⇧	1		2	12
Clinical Lab Technician/2 yr (MLT)	6.00		4		1		7	15
Clinical Lab Technician/4yr (MT)	14.50	⇧	6	⇧	11		12	23
Clinical Psychologist	2.00		7	⇧	18	⇧	15	44
Coder	9.00		17		16	⇧	21	41
Combined Coder/Biller	36.45	⇧ ⇧	24	⇧	14	⇧	27	97
Community Health Aide	56.50		7		9		11	23
Community Health Representative	19.50		3		3		5	22
Dental Assistant	30.50	⇧ ⇧	13	⇧ ⇧	11	⇧ ⇧	16	57
Dental Hygienist	13.75	⇧	10	⇧ ⇧	10	⇧	19	49
Diagnostic Medical Sonographer	6.50		10	⇧	14		13	19
Dietetic Technician	1.00		1		1		2	6
Dietitian registered	8.20		4		4		4	27
ECG/Treadmill/Holter	6.00		1		1		4	7
EMS Dispatcher*	1.00		2				1	7
EMS Instructor*	0.00		1		4		3	14
EMT1*	12.00		2		2		3	12
EMT2*	2.00		1					12
EMT3*	2.00		1					10
Environmental Health Technician	44.00		2		2		1	12
Health Educator	4.00		3		2		5	19

*See page 92 for EMS statewide numbers and comments.

Table 2. Compiled Occupational Results (cont.)

	Annual turnover per year (positions)		3-5 yr hiring projection: number of organizations expecting an INCREASE in staff		Recruitment difficult: number of organizations reporting VERY DIFFICULT		Reason for recruit difficult: number of orgs reporting because of TRAINING	Total number of orgs employing occupation
Health Information Administrator/4yr	7.00		3		6		6	17
Health Information Technician/2 yr	7.25		6		8		12	20
Home Health Aide	21.50		4	⇧	2		2	12
Human Services Worker/2yr	59.75		8		7		9	25
Human Services Worker/4yr	71.50	⇧	12		15		18	39
Human Services Worker/Entry Level	119.25		8		6		10	27
Licensed Professional Counselor	21.20	⇧	10	⇧	15		18	38
Mammographer	4.50		8		10		11	21
Marriage & Family Therapist/Licensed	4.00	⇧	6	⇧	9	⇧	12	25
Marriage & Family Therapist/Unlicensed	2.00		1		3		3	8
Medical Assistant	32.50	⇧	14	⇧	6	⇧	8	32
Medical Foster Care Provider	13.00		1		1		1	1
Medical Transcriptionist	17.50	⇧	6	⇧	9	⇧	14	56
Mental Health Counselor	34.50		15	⇧	21	⇧	18	49
MRI	5.50		8	⇧	7		5	9
Nuclear Medicine Technologist	2.50		4		7	⇧	5	8
Occupational Therapist	21.25		13	⇧	20		27	61
Occupational Therapy Technician	0.25		3		2		5	11
Optician/Apprentice	16.50		3		3		3	20
Optician/Licensed	9.00		9		10		13	24
Optometric Technician	9.25		4		3		5	18
Orthotist/Prosthetist	0.00		1		1		1	3
Other-Behavioral Health	45.00	⇧	5		8	⇧	7	17
Other-Other	0.50				1		2	4
Other-Rehab	1.00				1		1	1
Paramedic	12.00		2		6		7	12
Patient Advocate/Interpreter	3.00		3					9
Personal Care Attendant	145.00	⇧	14		7		11	25
Pharmacist	33.60		18		36		28	57

Table 2. Compiled Occupational Results (cont.)

	Annual turnover per year (positions)		3-5 yr hiring projection: number of organizations expecting an INCREASE in staff		Recruitment difficult: number of organizations reporting VERY DIFFICULT		Reason for recruit difficult: number of orgs reporting because of TRAINING	Total number of orgs employing occupation
Pharmacy Technician	78.50		20		7		18	48
Phlebotomist	21.00		5		2		7	20
Physical Therapist	34.25		25	⇧	20		30	74
Physical Therapist Assistant	6.75	⇧	11		4	⇧	8	33
Physician's Assistant	15.50		8	⇧	9		8	34
Psychiatric Nurse Assistant	42.00		1		2		3	7
Psychological Associate	2.70		3		9	⇧	11	27
Radiologic Technologist	33.00		12	⇧	17	⇧	17	28
Records Clerk	66.75	⇧	21	⇧	7	⇧	19	87
Respiratory Technician	3.00		2	⇧			5	7
Respiratory Therapist	20.50	⇧	4	⇧	3		4	13
School Counselor	13.30		5		8		12	27
School Psychologist	9.80		4		15		16	28
Social Worker/ Licensed Clinical	18.50	⇧	13	⇧	23	⇧	28	54
Social Worker/4 yr degree	32.60		9		10	⇧	15	39
Social Worker/6 yr degree	12.70	⇧	13	⇧	12	⇧	17	49
Speech Pathologist	27.25		12		37		30	58
Substance Abuse Counselor 1	22.00		8		13		15	35
Substance Abuse Counselor 2	22.50		11		16		17	40
Substance Abuse Supervisor	14.00		5		16		10	27
Substance Abuse Technician	33.00		7		10		8	28
Surgical Technician	4.00		2		2		1	9
Therapeutic Recreation Specialist	13.10		5		3		5	17

The following two tables organize selected occupations by geography and major academic unit (MAU). For purposes of analysis, current employees and vacancies are summed in the tables. This is because the summation of current staff and vacant staff reflects the actual number of people needed for the facility to operate at the time of the survey. Annual turnover is abbreviated as "Turn" and shown in parentheses with the employees/vacancies number. The reader can thus see what proportion "turns over" in each category.

Table 3. Occupations Organized by Geography and MAU

	Total Curr + Vacancy	ANC, JNU, FBX Curr+ Vac (Turn)	Branch Campus* Curr+ Vac (Turn)	No campus nearby	MAU ANC Curr+ Vac (Turn)	MAU FBX Curr+ Vac (Turn)	MAU JNU Curr+ Vac (Turn)
Billers and Coders	509	311 (58)	168 (19)	30 (7)	223 (45)	60 (10)	28 (4)
Dental Assistant	242	158 (22)	74 (8)	10 (1)	119 (12)	36 (9)	3 (1)
Pharmacy Technicians	525	341 (54)	180 (25)	4 (0)	261 (43)	45 (13)	35 (5)
Radiologic Technologist	178	121 (20)	52 (12)	5 (1)	89 (14.5)	28 (5.5)	4 (0)
Speech Pathology	235	145 (17)	81 (10)	10 (0)	123 (12.25)	6 (2)	16 (3)
Human Services/ Entry Level	515	202 (40)	286 (69)	27 (10)	195 (33.25)	7(7)	- -
2 yr	210	170 (52)	33 (7)	7 (1)	86 (31.75)	31 (10)	53 (10)
4 yr	411	302 (58)	104 (13)	5 (1)	191 (39.5)	47 (7)	64 (11)
Substance Abuse / Tech	194	75 (13)	92 (6)	27 (14)	55 (10)	15 (2)	5 (1)
SA Couns 1	122	60 (8)	48 (11)	14 (3)	28 (4)	25 (4)	7 (0)
SA Couns 2	148	95 (13)	39 (7)	14 (3)	74 (12)	8 (1)	13 (0)

*See Appendix D for a list of University of Alaska branch campuses.

Table 4. Occupations Organized by MAU and MAU Branches

	Total Curr + Vacancy	MAU ANC Curr+ Vac (Turn)	ANC branch* Curr+ Vac (Turn)	MAU FBX Curr+ Vac (Turn)	FBX branch* Curr+ Vac (Turn)	MAU JNU Curr+ Vac (Turn)	JNU branch* Curr+ Vac (Turn)
Billers and Coders	509	223 (45)	95 (13.25)	60 (10)	56 (3)	28 (4)	17 (3)
Dental Assistants	242	119 (12)	20 (5)	36 (9)	30 (?)	3 (1)	24 (3)
Pharmacy Technicians	525	261 (43)	133(20)	45 (13)	30(2)	35 (5)	18(2)
Radiologic Technologist	178	89 (14.5)	31 (8)	28 (5.5)	16 (2)	4 (0)	5 (2)
Speech Pathologists	235	123 (12.25)	62 (4.5)	6 (2)	12 (4.5)	16 (3)	7 (1)
Human Svs / Entry Level	515	195 (33.25)	67 (7)	7(7)	218 (62)	- -	1 (0)
2 yr	210	86 (31.75)	14 (7)	31 (10)	13 (?)	53 (10)	6(0)
4 yr	411	191 (39.5)	84 (13)	47 (7)	7 (?)	64 (11)	13 (0)
Substance Abuse / Tech	194	55 (10)	24 (1)	15 (2)	58 (3)	5 (1)	10 (2)
SA Couns 1	122	28 (4)	22 (8)	25 (4)	12 (0)	7 (0)	14 (3)
SA Couns 2	148	74 (12)	23 (5)	8 (1)	5 (0)	13 (0)	11 (2)

*See Appendix D for a list of University of Alaska branch campuses.

B. Results Organized by Occupation

In this section, you will find a page for each occupation which includes:

- Summary of findings
- Statewide Employment Results of the 369 surveys implemented
- A breakdown of numbers by campus category
- An occupational description

Occupations are grouped by sections with an introductory page that notes highlights and data limitations for the occupations within that section (see Appendix E for an overall summary of data limitations). Sections are divided into the following categories: Health Information Management, Behavioral Health, Hospital Ancillary Services, Long-term Care, Rehabilitation, Emergency Medical Services, and Miscellaneous Occupations. Below is a more detailed description of how to interpret the tables and graphs on the following pages.

Statewide Employment Results Table

Each table includes total *number of positions* by occupations counted on 369 surveys for the following: A) current number employed, B) current vacancies, C) estimated annual turnover, and D) 12-month projection of number of employees.

In addition, the last three columns of the table include the *number of organizations* reporting for the following: E) hiring projection for the next 3-5 years (increase, decrease, stay the same, position eliminated, or don't know); F) recruitment difficulty (very difficult, somewhat difficult, not difficult) and G) suspected reasons for difficulty in recruiting (pay/benefits, relocation, training).

It should be noted that not all organizations answered all questions on the survey, so numbers of organizations that reported for a particular variable are noted as "N" in the bottom row of each column. More than one answer could be provided for the last column "Reasons for Difficulty," so no "N" number is reported for that column.

Number of Organizations Employing this Occupation by Campus Category bar graph

To get a better idea of training needs in rural Alaska versus urban Alaska, and thinking in terms of potential educational course/program delivery systems, the data were sorted into three sets. Organizations located in Anchorage, Fairbanks, or Juneau were included in the "Main Campus" data set. Those organizations located in communities with a University of Alaska branch campus or center were lumped under "Branch Campus" and all other organizations within communities that were not near a main or branch campus were lumped into "No Campus Nearby." See Appendix D for a list of these communities.

Total Number of Positions and Annual Turnover by Campus Category bar graph

Note: *total number of positions* in this bar graph includes current number of employees *plus* current vacancies by the three campus categories. Turnover is the estimated annual number of positions that must be recruited each year.
Additional Note: In a few instances an organization may not currently have employees or vacancies, but projects employment for a particular occupation in the future. This may cause some discrepancies in numbers.

7. Emergency Medical Services

Occupations include: *EMT I, EMT II, EMT III, Paramedic,* and *EMS Instructor.*

It was difficult to collect accurate numbers of EMS staff with the allied health survey. This is because many EMTs are volunteers and thus not counted as staff by many survey respondents. To develop a better understanding of the EMS field and training needs, ACRH staff conducted structured key informant interviews with three experts:

- Matt Anderson, EMS Unit Manager, State EMS Program
- Dan Johnson, Regional EMS Program Director, Interior Region EMS Council
- Ronni Sullivan, Executive Director, Southern Region EMS Council

The following information was derived from those interviews:

Statewide Numbers as of January 2001 (includes volunteers and paid staff)	
EMT 1	1,674
EMT 2	564
EMT 3	533
Paramedic	about 300
EMS Dispatcher	about 25 (only includes those who are certified)
EMS Instructor	about 200

Distribution of EMS Workers

Alaska's urban communities (Anchorage, Fairbanks, and Juneau) enjoy a high proportion of paramedics. Employees are paid relatively well and have good benefits. Further, EMS training is located in urban areas and, as a result, recruitment and retention are not a problem for these communities.

Communities with populations of about 3,000 to 10,000 have a mix of paid and volunteer staff. Some do not have any paramedic level workers. Recruitment and retention can be a problem.

Communities with populations under 3,000 have primarily volunteer EMS staff. When volunteers leave the community or "burn-out," there often isn't anyone to replace them.

Regarding paramedic training: with the exception of Anchorage, Fairbanks, and Soldotna, it is not possible to conduct paramedic internships in rural communities within Alaska due to low-density populations. 480 hours of field internship time is required for paramedic licensure, along with specific procedures that need to be demonstrated. As a result, students often must go outside of Alaska for their internships.

Lack of funding for training was a consistent theme, not only in the key informant interviews, but with the survey respondents as well. Respondents particularly emphasized the lack of funding in rural communities where EMS training is most needed. Other trends noted by survey respondents include an increase in the level of skills for EMS workers, an increase in the role of paramedics in the community, and an increase in the use of technology. Providing EMS courses to rural residents is a top priority to respondents.

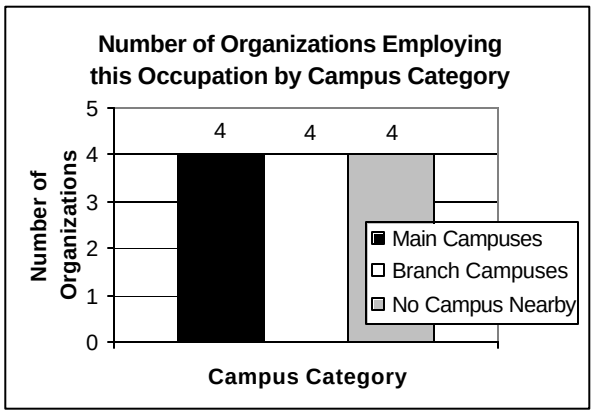
EMERGENCY MEDICAL TECHNICIAN I (EMT I)

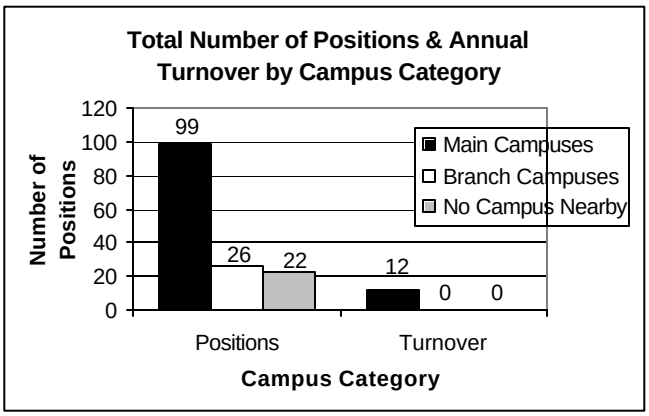
Summary:
See page 92 for EMT statewide numbers and comments.

Statewide Employment Results

Total currently employed	Total vacancies	Estimated annual turnover	12 month projection	3-5 year hiring projection (organizations)		Recruitment difficulty (organizations)		Reasons for difficulty (organizations)	
117 positions	30 positions	12 positions	169 positions	2	Increase	2	Very difficult	3	Pay/benefits
				8	Stay the same	2	Somewhat difficult	0	Relocation
				0	Decrease	7	Not difficult	3	Training
				1	Don't know				
N=12	N=10	N=9	N=10	N=11		N=11			

* N= number of organizations reporting for that variable





(Note: See Appendix D for a list of communities near the "main" or "branch" University of Alaska campuses.)

OCCUPATIONAL DESCRIPTION

An Emergency Medical Technician (EMT) provides emergency medical care until the patient arrives at a clinic or hospital. At each progressive level of certification or licensure, the roles and responsibilities of the caregiver increase. All EMTs are taught to assess the emergency scene, control bleeding, apply splints, assist with childbirth, administer oxygen, and perform CPR and other basic life support skills. An EMT-I may assist a patient with the administration of prescribed nitroglycerin, handheld bronchodilator inhaler, or epinephrine autoinjector for anaphylaxis. In rural Alaska, most EMTs work for volunteer or paid fire departments or ambulance services. All Community Health Aides are trained as Emergency Medical Technicians. A unique aspect of rural emergency medical care is the need to take care of patients for longer periods of time because of the long distances between communities. An EMT-I is certified through the Department of Health and Social Services.

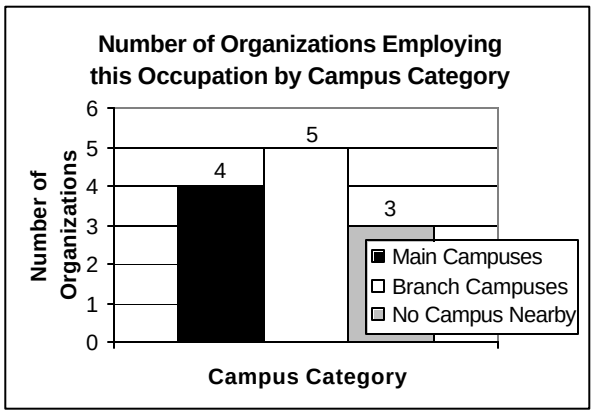
EMERGENCY MEDICAL TECHNICIAN II (EMT II)

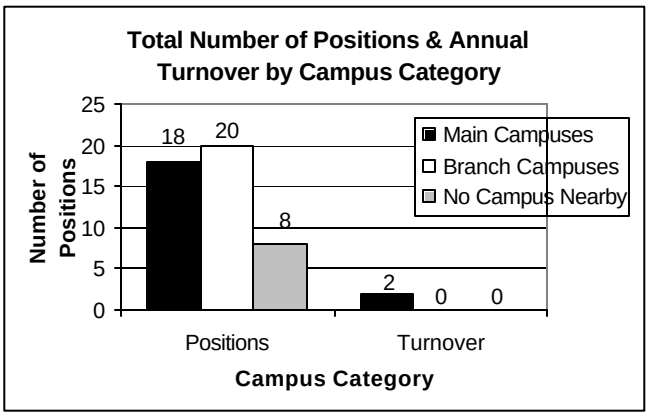
Summary:
See page 92 for EMT statewide numbers and comments.

Statewide Employment Results

Total currently employed	Total vacancies	Estimated annual turnover	12 month projection	3-5 year hiring projection (organizations)		Recruitment difficulty (organizations)		Reasons for difficulty (organizations)	
46 positions	0 positions	2 positions	24 positions	1	Increase	0	Very difficult	1	Pay/benefits
				7	Stay the same	1	Somewhat difficult	0	Relocation
				0	Decrease	8	Not difficult	0	Training
				2	Don't know				
N=12	N=10	N=9	N=7	N=10		N=9			

* N= number of organizations reporting for that variable





(Note: See Appendix D for a list of communities near the "main" or "branch" University of Alaska campuses.)

OCCUPATIONAL DESCRIPTION

An Emergency Medical Technician (EMT) provides emergency medical care until the patient arrives at a clinic or hospital. At each progressive level of certification or licensure, the roles and responsibilities of the caregiver increase. All EMTs are taught to assess the emergency scene, control bleeding, apply splints, assist with childbirth, administer oxygen, and perform CPR and other basic life support skills. In addition to described EMT-I skills, an EMT-II may also, under direct or indirect supervision of a physician, perform the following: use approved airway management techniques; start peripheral IVs; and use D5W, crystalloid volume replacement solutions, sodium bicarbonate, 50% glucose, and naloxone hydrochloride (Narcan). In rural Alaska, most EMTs work for volunteer or paid fire departments or ambulance services. An EMT-II is certified through the Department of Health and Social Services.

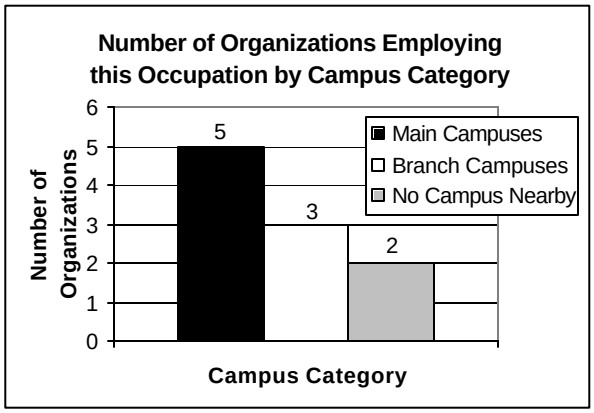
EMERGENCY MEDICAL TECHNICIAN III (EMT III)

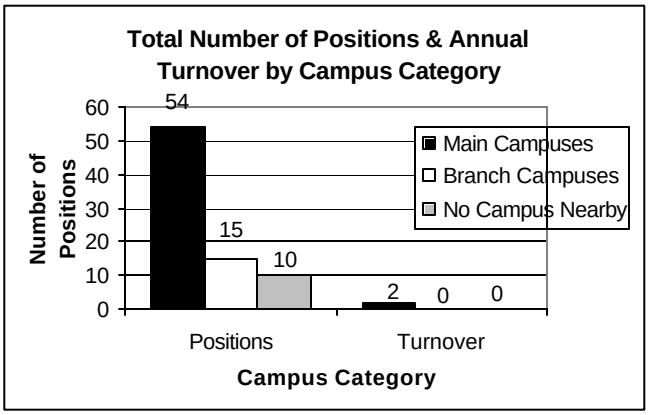
Summary:
See page 92 for EMT statewide numbers and comments.

Statewide Employment Results

Total currently employed	Total vacancies	Estimated annual turnover	12 month projection	3-5 year hiring projection (organizations)		Recruitment difficulty (organizations)		Reasons for difficulty (organizations)	
79 positions	0 positions	2 positions	51 positions	1	Increase	0	Very difficult	0	Pay/benefits
				5	Stay the same	0	Somewhat difficult	0	Relocation
				0	Decrease	8	Not difficult	0	Training
				2	Don't know				
N=10	N=9	N=9	N=7	N=8		N=8			

* N= number of organizations reporting for that variable





(Note: See Appendix D for a list of communities near the "main" or "branch" University of Alaska campuses.)

OCCUPATIONAL DESCRIPTION

An Emergency Medical Technician (EMT) provides emergency medical care until the patient arrives at a clinic or hospital. At each progressive level of certification or licensure, the roles and responsibilities of the caregiver increase. All EMTs are taught to assess the emergency scene, control bleeding, apply splints, assist with childbirth, administer oxygen, and perform CPR and other basic life support skills. In addition to described EMT-I and EMT-II skills, EMT-III personnel may apply electrodes and monitor cardiac activity; defibrillate life-threatening arrhythmias; and use lidocaine, morphine, atropine, and epinephrine 1:1,000 and 1:10,000. In rural Alaska, most EMTs work for volunteer or paid fire departments or ambulance services. An EMT-III is certified through the Department of Health and Social Services.

PARAMEDIC

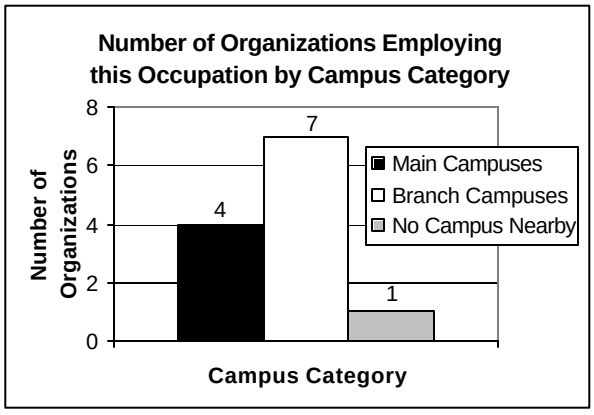
Summary:
Paramedics were rated "somewhat" to "very difficult" to recruit by 91% of the respondent organizations. Training was the most frequently cited reason for difficulty in recruitment.

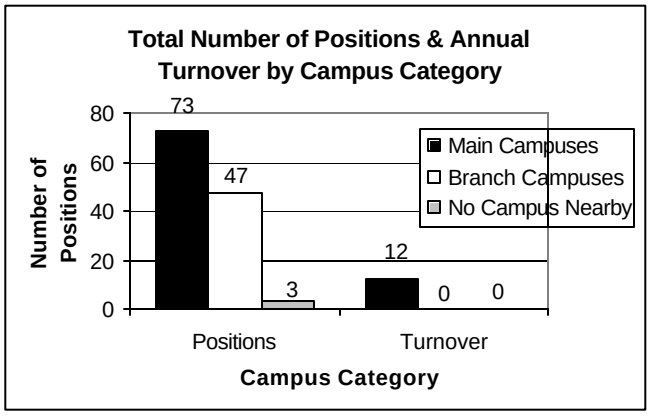
Note: See page 92 for EMS statewide numbers and comments.

Statewide Employment Results

Total currently employed	Total vacancies	Estimated annual turnover	12 month projection	3-5 year hiring projection (organizations)		Recruitment difficulty (organizations)		Reasons for difficulty (organizations)	
114 positions	9 positions	12 positions	113 positions	2	Increase	6	Very difficult	1	Pay/benefits
				6	Stay the same	4	Somewhat difficult	2	Relocation
				1	Decrease	1	Not difficult	7	Training
				2	Don't know				
N=12	N=12	N=11	N=11	N=11		N=11			

* N= number of organizations reporting for that variable





(Note: See Appendix D for a list of communities near the "main" or "branch" University of Alaska campuses.)

OCCUPATIONAL DESCRIPTION

Mobile Intensive Care Paramedics are called "pre-hospital providers" since they usually provide emergency medical care to individuals until they arrive at the clinic or hospital. In addition to the described EMT skills, paramedics have the most training and expansive scope of authorized activities. They administer a wide variety of emergency medications and perform a wider variety of invasive procedures, such as needle chest decompression. A unique aspect of rural emergency medical care is the need to take care of patients for longer periods of time because of the long distances between communities. Mobile Intensive Care Paramedics are licensed by the Department of Community and Economic Development.

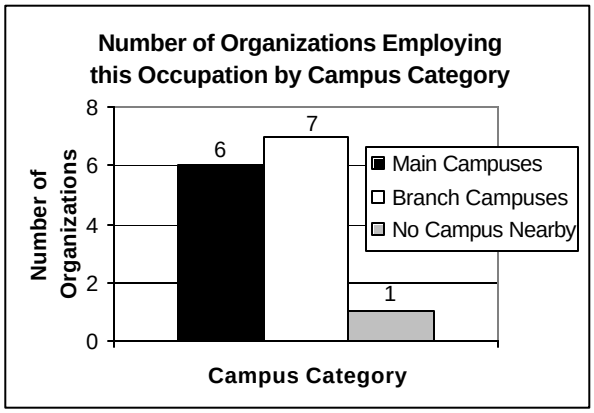
EMS INSTRUCTOR

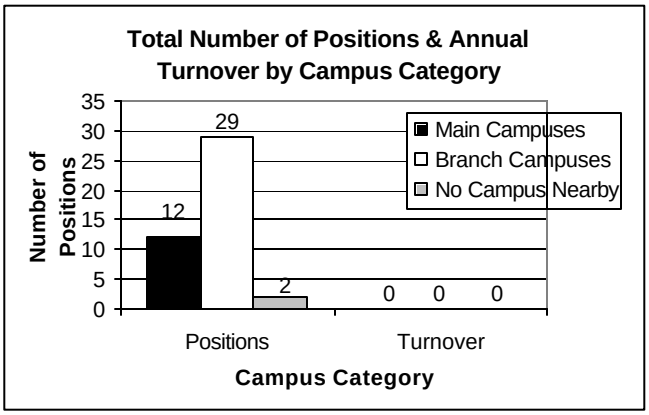
Summary:
See page 92 for EMS statewide numbers and comments.

Statewide Employment Results

Total currently employed	Total vacancies	Estimated annual turnover	12 month projection	3-5 year hiring projection (organizations)		Recruitment difficulty (organizations)		Reasons for difficulty (organizations)	
43 positions	0 positions	0 positions	27 positions	1	Increase	4	Very difficult	1	Pay/benefits
				9	Stay the same	2	Somewhat difficult	1	Relocation
				0	Decrease	6	Not difficult	3	Training
				3	Don't know				
N=14	N=13	N=11	N=11	N=13		N=12			

* N= number of organizations reporting for that variable





(Note: See Appendix D for a list of communities near the "main" or "branch" University of Alaska campuses.)

OCCUPATIONAL DESCRIPTION

There are five levels of EMS Instructors certified through the Department of Health and Social Services. Depending upon their certification, an EMS Instructor can teach Emergency Trauma Training (ETT), EMT 1, EMT 2, or EMT 3 courses. The highest level of EMS Instructor is a Mobile Intensive Course Coordinator.

C. Summary of Qualitative Comments

In addition to the quantitative data, the allied health workforce assessment includes a qualitative component. Respondents were asked to comment on recruiting difficulties, current or future training needs, and cross training that was used or would be beneficial in their organizations. They were also asked to describe developing trends in their field in terms of the workforce and to offer any thoughts or comments that would help the University of Alaska in planning health related coursework and programs. (For specific questions asked, please refer to the survey instrument in Appendix A).

Due to the diversity of organizations that participated, analysis of these questions was conducted in categories. For example, responses from dental clinics, medical clinics, and pharmacies are likely to focus on the 3-4 occupations they employ. In contrast, large clinics or hospitals are likely to provide more thematic responses. Categories include: 1) dental clinics, 2) medical clinics, 3) pharmacies, 4) vision clinics, 5) school districts, 6) rehabilitation offices, 7) emergency medical services, 8) behavioral health organizations, and 9) large health care organizations, including hospitals and Native health corporations. (For a complete summary of comments see Appendix F.)

1. Dental Clinics (N= 41)

General trends identified include: 1) clients with less dental insurance coverage; 2) fewer dental offices taking care of insurance billing; 3) a lack of experienced applicants; and 4) an increase in client knowledge of dental care.

Most dental offices are providing training to their staff, but could use additional training in areas such as x-ray.

Cross training is a common practice in dental offices, particularly between the front desk staff and dental assistants, and occasionally dental hygienists.

Respondents expressed the need for the University of Alaska to provide more dental assisting programs in other parts of the state, especially in Fairbanks. In particular, respondents reported the need for coursework to emphasize hands-on experiences and teamwork skills. Courses that focus on clerical work in dental offices, such as billing, insurance coverage, and medical terminology are also needed.

2. Medical Clinics (N= 32)

The most frequently mentioned trend in medical clinics is the shortage of qualified personnel, especially certified medical assistants and nurses. Other noteworthy trends include: the use of electronic (rather than paper) medical records, increased regulations and complications in coding, and the influence of insurance companies, which are limiting service coverage and advocating the use of preferred providers.

Survey respondents were highly concerned about enhancing clerical training. *Coding* was the most frequently mentioned area of clerical training needed in medical offices. Other frequently listed training needs include legal issues, insurance billing, medical terminology, and customer service.

Cross training occurs frequently in medical clinics, particularly among clerical or front desk staff members. Many are cross trained to deal with medical records, billing, and coding. Cross training also occurs between nurses, x-ray technicians, and medical assistants.

Respondents would like to see the University of Alaska offer specific medical programs and training. In particular, they requested a physician assistant program, a medical assisting program, an x-ray program, and a more accessible nursing program that graduates more nurses. Respondents also requested courses in cardiology and phlebotomy.

3. Pharmacies (N= 27)

The most significant trend noted is the shortage of pharmacists in Alaska and across the nation. A resulting trend is a foreseeable increase in the number of pharmacy technician positions and an expansion of the pharmacy technician's role. Respondents also noted that the pharmacist's role is moving towards more direct patient care.

Many respondents commented that they would like to see both a pharmacy and pharmacy technician program within Alaska. A desire for continuing education courses to update licenses was also expressed.

4. Vision Clinics (N= 29)

An increase in technology and a shortage of licensed opticians were the most frequently mentioned trends among vision clinics. Other trends include: movement toward bigger and more expansive offices, fewer optometric technicians with licenses, and more patients being referred by general practitioners to eye doctors.

Respondents want a two-year university optician program in Alaska, as well as a licensing program for optometric technicians. Several respondents suggested correspondence courses for opticians.

5. School Districts (N= 38)

There is currently a shortage of qualified allied health personnel in the schools, especially specialists such as speech pathologists and school psychologists. Undesirable travel requirements, lack of funding, and lack of competitive wages were probable reasons for this shortage.

Respondents identified a trend toward increased medical needs of students, yet a number of schools in the state reportedly do not have school nurses.

School staff members are in need of additional training to help them work with FAS/FAE and autistic children.

There is a substantial need for in-state programs in speech pathology, occupational therapy, and physical therapy. Respondents want local programs in these areas so they can recruit individuals from within Alaska. They also encouraged the University of Alaska to create a school counseling/psychology program, and to more actively urge high school students into careers in the health care fields.

6. Rehabilitation Offices (N= 27)

Trends in the physical rehabilitation field include: 1) a decreased number of physical therapists being hired due to changes in Medicare policies; and 2) an emphasis on improved working conditions and ergonomics.

Cross training is a common practice among staff members in rehabilitation offices, particularly between clinical and clerical staff.

Respondents want to have a physical therapy program and speech pathology program within Alaska. They also want more continuing education courses to help them maintain their licenses.

7. Emergency Medical Services (N= 11)

Lack of funding in EMS organizations is a significant trend that negatively impacts training needs, especially in rural communities. Other significant trends include: 1) an increase in the paramedic's level of skill and role in the community and 2) the increased use of technology.

Recruitment and retention in the EMS system is particularly difficult in *rural* communities.

Providing EMT1, EMT 2, EMT 3, paramedic, and dispatching courses to rural residents is of top priority to respondents – either in the form of a local program or through distance education.

8. Behavioral Health (N= 105)

Lack of funding is the most significant trend reported in the behavioral health care field. Other major trends include: increased need for home health care, changes in insurance and billing regulations, and expansion of treatment plans to include families and the community.

Behavioral health organizations have difficulty recruiting personnel because applicants lack experience and qualifications, and because jobs often lack benefits, competitive wages, and desirability.

Cross training is a common practice in behavioral health organizations. Clinical staff, particularly mental health counselors, are often cross trained in addiction, domestic violence, pregnancy, and parenting issues. Administrative and clerical staff may be cross trained to do billing and data processing. Respondents want to see further cross training take place in most areas of their organization.

Respondents emphasized the need for flexible coursework in the behavioral health care field, including distance learning options, continuing education, internships, and practicums. Programs listed as a priority include: doctoral programs, MSW programs, speech therapy, and personal care attendant programs. The following specific areas of needed study were also identified: substance abuse, mental health therapy, gerontological studies, developmental disabilities, cultural competency, domestic violence, special needs children, and computers.

9. Large Health Care Organizations (N= 59)

Trends in large health care organizations included a scarcity of qualified personnel, especially qualified *nurses*, *pharmacists, counselors, social workers, radiologists*, and *respiratory therapists*. Reasons given for recruitment difficulties include: location of employment (rural

setting), noncompetitive wages and benefit packages, increased demands and stress in health care jobs, and difficulty finding adequate housing. Other trends include: 1) lack of funding, 2) expansion of the number and type of health care services, 3) increased use of telemedicine and computerized technology, 4) an aging health care staff, and 5) the increased need for collaboration between large health care organizations.

Respondents identified a strong need for training in administration, management, and clerical tasks in the health care fields. Most notably, they want computer training and courses in billing, coding, medical terminology, and grant writing.

Most staff members in large health care organizations are cross trained in some capacity. Among clerical and administrative staff, cross training frequently occurs between billing clerks, accountants, medical records staff, and coders. In the clinical setting, the following were mentioned as being cross trained in a wide variety of ways: counselors, nurses, lab technicians, certified nursing assistants (CNA), community health aides (CHA), and respiratory therapists. Respondents reported that they could use further cross training in their organization, particularly among clerical staff in the area of billing and coding.

Respondents want more programs offered through the University of Alaska in health care fields. In particular, they requested a wider range of coursework and continuing education training for nurses, CNAs, and CHAs. They also requested training programs for radiologists, medical assistants, dentists, counselors, pharmacists, physician assistants, dietitians, and polysomanographic technologists, as well as additional training in geriatrics, behavioral health, respiratory care, and phlebotomy.

There is a strong need for university-level programs and courses for *rural* communities. Respondents want more distance delivery courses and continuing education for professionals. These courses should be more culturally relevant, especially for Alaska Natives.

IV. DISCUSSION AND RECOMMENDATIONS

In this section, quantitative and qualitative findings converge to become the Project Team's recommendations. On February 22, 2001, these recommendations were presented to the University of Alaska's Planning & Budgeting Advisory Committee (PBAC) on Health where they were transformed into proposed implementation strategies for Fiscal Year 2002 funding. The PBAC's recommendations follow each of the Project Team's findings and recommendations.

A. Billing and Coding

1. Findings and Recommendations

a. Findings

Staff working as coders, billers, and combined coder/billers are in very high demand. These occupations ranked highly on four variables: 1) highest turnover; 2) most difficult to recruit; 3) most difficult to recruit because of training; and 4) the largest number of organizations expecting an increase in hiring in the next 3-5 years. They are employed in urban and rural locations, and in large and small organizations. Qualitative data support the quantitative findings; there is an overwhelming need for more people to be trained in these occupations. In addition, organizations reported that administrators and practitioners would also benefit from a better understanding of the reimbursement process as it would encourage a more efficient and "reimbursable" approach to work.

b. Project Team Recommendations

There is high demand for staff trained to code and bill for reimbursement. Further, many respondents expressed a need for more allied health personnel to be cross trained in coding/billing or to understand how and which activities are reimbursed.

- Advertise coding/billing classes that are currently available
- Enhance and expand distance delivered coding classes (possibly with web-based instruction or other modalities)
- Offer multiple levels of training, to reflect the range of ways this knowledge may be used by allied health workers

2. PBAC Proposed Implementation Strategy

See *Other Allied Health Professions (p. 107)*

B. Dental Assisting Program

1. Findings and Recommendations

a. Findings

Dental Assistants ranked highly on four variables: 1) highest turnover; 2) most difficult to recruit; 3) most difficult to recruit because of training; and 4) the largest number of organizations expecting an increase in hiring in the next 3-5 years. Survey respondents reported 232 positions spanning 57 organizations. Respondents often reported recruiting

part-time dental assistants out of the dental hygiene program, or hiring students in the dental assisting program before program completion.

b. Project Team Recommendations

Expand the current program to reach more students, including those outside of the greater Anchorage area.

2. PBAC Proposed Implementation Strategy

See *Other Allied Health Professions (p. 107)*

C. Pharmacy Technician Program

1. Findings and Recommendations

a. Findings

Pharmacy Technicians ranked highly on four variables: 1) highest turnover; 2) most difficult to recruit; 3) most difficult to recruit because of training; and 4) the largest number of organizations expecting an increase in hiring in the next 3-5 years. Survey respondents reported 497 pharmacy technician positions spanning 48 organizations statewide. Given the developing scarcity of pharmacists nationwide, more pharmacy technicians – with more skills – will be needed to cover the growing gap.

b. Project Team Recommendations

Expand the current program to reach more students, including those outside of the greater Anchorage area.

2. PBAC Proposed Implementation Strategy

Expand the pharmacy technician training at UAF using the instructional models developed at UAA. Sixty thousand dollars in FY02 general fund coupled with $20,000 in tuition would cover the estimated $80,000 in program expenses.

D. Radiologic Technology Program

1. Findings and Recommendations

a. Findings

Radiologic Technologists ranked highly on four variables: 1) highest turnover; 2) most difficult to recruit; 3) most difficult to recruit because of training; and 4) the largest number of organizations expecting an increase in hiring in the next 3-5 years. Survey respondents reported 158 radiologic technologist positions spanning 28 organizations statewide. Phone surveyors learned that demand will grow further when the state institutes licensing requirements.

b. Project Team Recommendations

Expand the currently planned radiology program to reach more students, including those outside of the greater Anchorage area.

2. PBAC Proposed Implementation Strategy

Continue the current efforts to develop radiological health training including the FY03 proposal to increase faculty appointments from 9 to 12 months. Additional assessments of the program should be conducted for possible inclusion in FY04 initiatives.

E. Rehabilitation

1. Findings and Recommendations

a. Findings

Physical therapy, occupational therapy, and speech pathology are all high demand occupations. All three ranked highly on four variables: 1) highest turnover; 2) most difficult to recruit; 3) most difficult to recruit because of training; and 4) the largest number of organizations expecting an increase in hiring in the next 3-5 years. Other rehabilitation professionals and paraprofessionals ranked lower, possibly because of the low volume of them employed in Alaska. There is still relatively high need for all of them, and they are difficult to recruit. Survey respondents reported that lack of funding for services and lack of competitive wages (especially in the school districts) make recruiting difficult. Respondents from both school districts and health care organizations expressed the need for in-state therapy programs, along with continuing education courses to help maintain a therapist's license.

b. Project Team Recommendations

It is not likely that the University of Alaska will be able to start programs in any of these areas in the immediate future.

- Hire an advisor who specializes in rehabilitation occupations. This person would be responsible for counseling students on prerequisites for speech pathology, physical therapy, occupational therapy, and therapeutic recreation specialist programs.
- Working with the Commission on Post-secondary Education, develop formal (à la WWAMI) and informal relationships with rehabilitation programs in other universities (especially in the WICHE and WUE areas) to facilitate University of Alaska student matriculation.
- Support Professional Student Exchange Program (PSEP)

2. PBAC Proposed Implementation Strategy

The committee recommends that a full-time equivalent faculty member be hired together with travel and incidental costs for a cost not to exceed $120,000.

F. Behavioral Health Programs

1. Findings and Recommendations

a. Findings

A range of behavioral health occupations consistently floated to the top of every prioritization list. These occupations include human service workers, substance abuse workers, mental health counselors, licensed professional counselors, and social workers. They work throughout Alaska in a variety of organizations. Responding organizations reported difficulty in recruitment because positions lack benefits, competitive wages, or desirability. They reported that applicants often lack experience or appropriate qualifications. For personnel serving Alaska Natives, familiarity with substance abuse/multigenerational grieving is important. And rural respondents reported that high turnover can often be attributed to staff having limited skills for life in "bush" Alaska.

b. Project Team Recommendations

Due to problems in how occupations were organized, and the number of job titles, they are lumped together for these recommendations. The University of Alaska offers a wide range of behavioral health training, including but not limited to, human services, psychology, and social work. Specialties, or additional coursework, are offered in substance abuse and developmental disabilities. Students can study for an Associate level degree, or continue through a Bachelor's or Master's degree. Distance delivery is available for some programs. *It should be noted that the recommendations do not come directly from the quantitative or qualitative data; rather, the team reviewed the data and took a larger view of the recruitment and retention problem.*

- Coordinate the behavioral health programs offered campus-wide, especially to encourage cross training among sub-specialties
- Repackage curricula to include substance abuse training and mental illness
- Repackage curricula to raise awareness of Alaska-specific issues (living in "bush" Alaska, multigenerational grieving, etc.)
- Offer continuing education courses, including some delivered over distance
- Offer a distance delivery course orienting current and future providers of human services to the Alaska specific issues mentioned above, as well as to Alaska's public behavioral health services and systems and to appropriate Alaska statutes regarding service delivery

2. PBAC Proposed Implementation Strategy

The committee recommends an extension of the existing Allied Health Services contract with the Alaska Center for Rural Health to provide an initial $10,000 for the study of behavioral health efforts. This money has been taken from the FY01 pool and therefore will not affect the FY02 Allied Health set-aside.

Additional activities to be included are as follows:

- Behavioral Health Personnel Analysis - $50,000
- Associated Travel - $10,000

- Curriculum Development in Cross-Cultural and Intergenerational Mental Health Issues - $5,000
- Curriculum Development in Substance Abuse - $5,000

G. Emergency Medical Services

1. Findings and Recommendations

a. Findings

It was difficult to collect accurate numbers on EMT staff because many EMTs are volunteers and thus not counted as staff by responding organizations. Thus, ACRH staff conducted structured key informant interviews with three leaders in the EMS field. There are over 3,000 EMS workers in Alaska – both paid and volunteer. Urban communities provide training opportunities and paid employment opportunities. Thus, they enjoy staff with a higher level of training and relatively low turnover compared to rural and remote regions of the state. Limited funding for rural training, and limited rural training in general, contributes to the scarcity of trained personnel in rural Alaska – and the desperate need for skilled EMTs. The University of Alaska provides limited EMT courses outside of Anchorage, Fairbanks, and Juneau. In addition, Native corporations no longer provide consistent funding for training, and costs have increased. There are instructor fees, housing, and transportation costs to consider in the provision of training.

b. Project Team Recommendations

- Provide rural EMT courses in more communities.
- Provide college credits for EMT courses, as it may improve matriculation.
- Broaden EMT training to include leadership and management – as many people are promoted into these positions without any management knowledge or experience.

2. PBAC Proposed Implementation Strategy

See *Other Allied Health Professions (p. 107)*

H. Entry-Level Occupations

1. Findings and Recommendations

a. Findings

Certified Nursing Assistants and Medical Transcriptionists are in very high demand. CNAs have the highest turnover of all allied health professions and ranked highly on four variables: 1) highest turnover; 2) most difficult to recruit; 3) most difficult to recruit because of training; and 4) the largest number of organizations expecting an increase in hiring in the next 3-5 years. Medical Transcriptionists ranked highly on the same variables for urban Alaska. Psychiatric Nurse Assistants did not rank as highly, but are also needed. Turnover in the CNA field is partially attributed to poor pay and difficult working conditions – and more training will not resolve these issues. Medical transcription pays relatively well; anecdotal comments from survey respondents suggests this work is done outside of Alaska due to the lack of trained people available within Alaska.

b. Project Team Recommendations

Partnering with high schools or secondary programs to offer courses and training in these entry-level allied health occupations may give the University an opportunity and avenue to encourage high school students to pursue health related careers.

- Offer university courses and credits for these entry-level occupations. These would become career "bridges," as the credits would facilitate studying more advanced health careers, but would not apply directly to the programs.

2. PBAC Proposed Implementation Strategy

See *Other Allied Health Professions (below)*

I. Other Allied Health Professions

The committee found common themes in the study's discussion of the need for coordination of other Allied Health professions including coding and billing specialists, dental assisting, entry level health occupations and some emergency medical services training. The committee discussed the need for distance delivery of many of these programs and the need for qualified personnel at each MAU to assist students in:

- Service coordination
- Instruction
- Distance education
- Preceptorship site development and management
- Student placement

These Allied Health coordinators would assure that students enrolled in various Allied Health Distance Education courses of study would receive the support required for successful completion. High school student recruitment – especially minority students – into health careers would be another critical element in this initiative. It was estimated that the cost would not exceed $200,000.

The committee recommends that the chair contact individuals who could put together a more detailed proposal for the expenditure of the FY02 Allied Health resources in line with these recommendations.

Emergency Medical Services

Lack of funding in EMS organizations is a significant trend that negatively impacts training needs, especially in rural communities. Other significant trends include: an increase in the paramedic's level of skill and role in the community, and increased use of technology.

Funding [7]
Lack of funding, particularly for training, is the most significant trend facing Emergency Medical Systems, especially in rural communities. *"It is cost prohibitive to get instructors to remote locations."* In the past, native corporations often funded training, but now communities have to come up with the money on their own. These communities are faced with instructor fees, housing, and transportation. *"It's difficult to get instructors who want to go out to the villages."* One department spent $50,000 to send an employee to paramedic school—*"won't do that again!"*

The University also used to be a large "player" in helping to provide EMS courses to rural communities, but once funding levels dropped, these programs became dormant. Now, most of the courses are provided in the larger communities, and not in the places where they are needed the most.

Respondents also reported difficulties receiving enough funding for upgrading equipment and hiring employees. One reported that Fairbanks built a third station but has yet to receive funding to "man" this station.

Increased level of skill and role in community health [5]
There has been an increase in the specialization and skill level of EMS workers, resulting in an increase in their skill and knowledge. Consequently, training is becoming more and more rigorous, making it difficult to become an EMT because of the increased number of hours required for certification. There is also an emphasis on getting a bachelor's degree for EMS workers.

Paramedics are playing a larger role in community health, and their scope of practice is expanding. They are doing tasks such as immunization clinics, well baby checks, and patient education and referral.

Increase in technology [2]
Respondents reported an increase in technology in the EMS field over the past five years. One respondent said cardiovascular technology has improved, decreasing the time needed to get to the hospital. Another said all police and fire departments are now on-line.

Other
Other trends in EMS-related health care include: a dwindling pool of paramedics, the unification of borough-wide protocols, a nationwide decrease in insurance reimbursement, and more age related EMS responses (i.e. heart attacks and respiratory arrests) instead of trauma related responses.

Providing EMT1, EMT 2, EMT 3, paramedic, and dispatching courses to rural residents is of top priority to respondents--either in the form of a local program or through distance education.

Need to make EMT courses [4] and paramedic courses [3] accessible to rural communities

There is a substantial need for EMT and paramedic courses in rural areas, thus allowing locals to acquire and maintain certification and licenses, and to update credentials without leaving the community. One respondent said larger campuses like UAA train a lot of EMTs, but most of these students do not go on to volunteer because there are no outlets in Anchorage. Thus, although a large number of students receive certification, very few actually use the training.

Respondents want the University to play a leading role in providing courses to rural communities. Because it is costly to support EMT and paramedic courses in the bush, the University may want to form partnerships with communities and health corporations to help with funding.

One respondent suggested that the experience acquired by EMT3s in the field should be recognized and applied towards a paramedic license. Another wanted local EMS dispatch courses, and suggested coming up with a standard course that would work in both rural and urban areas. *Many of the national dispatch courses don't devote any attention to working in rural areas.*

Need paramedic programs in rural communities [3]

Several respondents reported a need for a paramedic program in rural areas. These programs could allow students to work toward an associate degree, as well as provide opportunities to maintain licenses. One respondent acknowledged that it may be difficult to start a program because there is no teaching hospital. Another supported UAF's plan to put together a paramedic program.

In addition, in-state paramedic internships would allow students to remain in Alaska. One respondent provided the following information about internships: the licensing board cannot allow internships in areas of low population. In Alaska, only Anchorage, Fairbanks, and Soldotna are allowed to have internships. Anchorage generally ends up doing most of the internships. However, because of the staff commitment required for sponsoring internships, organizations are only willing to take on a few. Three quarters of the students usually end up going out of state for their internships.

Need distance education courses [2]

Respondents suggested the University provide more distance education, such as prerequisite courses in anatomy and physiology, to rural residents to help them work toward becoming an EMT or paramedic. One suggested providing more training for EMS management and leadership, stating that many good EMTs end up being promoted to leadership and management position even though they have no training in the area.

Recruitment and retention in the EMS system is particularly difficult in rural communities.

Recruitment and retention issues in the EMS system vary depending on the size of the community. Generally, it is much easier to recruit and retain paramedics in urban regions than in

rural regions. Rural communities have a smaller population from which to draw qualified personnel, and frequently these positions are non-paying. In urban areas (such as Anchorage, Juneau, and Fairbanks), employees are generally well paid and have good benefits. In addition, rural EMS jobs can be more stressful because staff members often do not have the backup or get the same level of on-the-job experience as they would get in busier urban areas, and because they often respond to calls involving people they know